

# I-29 Exit 77 (41<sup>st</sup> Street) Crossroad Corridor Study Public Meeting/Open House #2 September 21, 2011

## Study Advisory Team



CONFLUENCE



Study  
Area

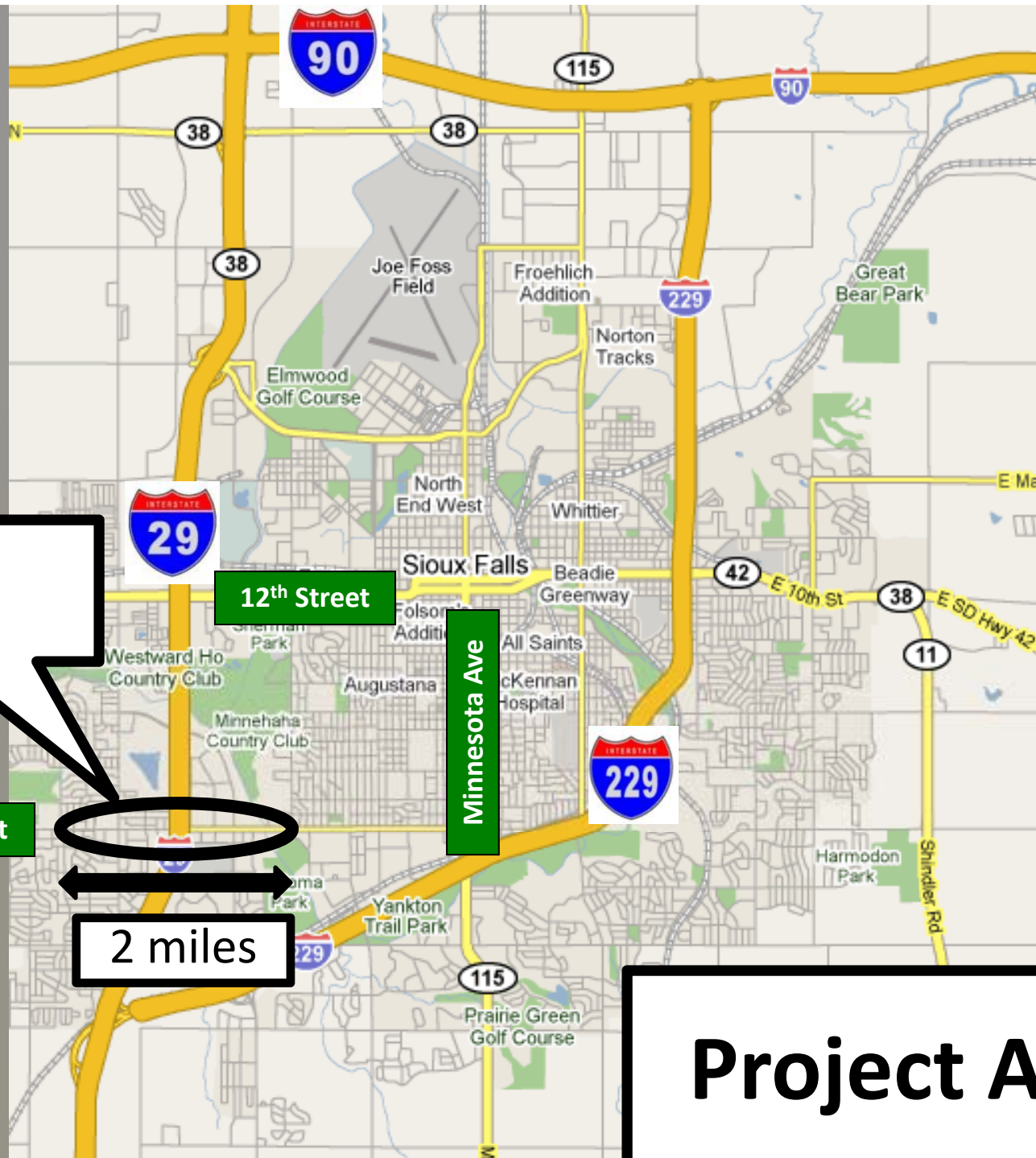
12<sup>th</sup> Street

41<sup>st</sup> Street

2 miles

Minnesota Ave

Project Area





# Study Roadway



# Project Area



A map of the I-29 corridor in Sioux Falls, South Dakota. The map shows the route of I-29 running north-south, with several red dots indicating upgrade locations. Callout boxes provide details about these upgrades. The map also shows major highways like I-90 and I-229, and local streets like Russell Street, 12th Street, 41st Street, and 57th Street. Landmarks such as Joe Foss Field and the Minnehaha Country Club are also visible.

I-29 upgraded  
to 3 lanes  
2002 to 2007

I-29  
upgrade  
2011

I-29/I-229  
study  
ongoing

I-29 new or  
expanded  
interchanges

- 60<sup>th</sup> St 1996/2002
- Benson Rd 2002
- Russell St 2002
- Madison St 2004
- 12<sup>th</sup> St 2006
- 26<sup>th</sup> St 1996

**I-29 Upgrade  
Timeline**



Traffic will increase by year 2035.

Heavy movements in  
PM peak  
(traffic backs up to I-29)

Heavy movement in  
AM peak  
(traffic backs up to  
Marion Road)

Significant traffic increase  
expected west of I-29.

Minor traffic increase  
expected east of I-29.

**Existing  
Conditions**





A – Normal speeds, large gaps between vehicles



D – Slightly reduced vehicle speeds, minor delays



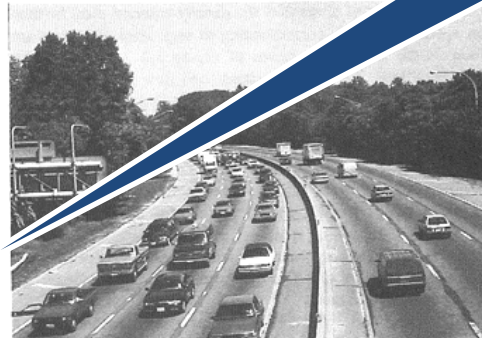
B – Normal speeds, smaller gaps between vehicles



E – Reduced vehicle speeds, moderate delays



C – Normal speeds, no delays



F – Stop and go conditions, long delays

Design goal for urban areas = LOS D or better

Design goal for rural areas = LOS C or better

*Source: Highway Capacity Manual*

## Level of Service (LOS) Summary





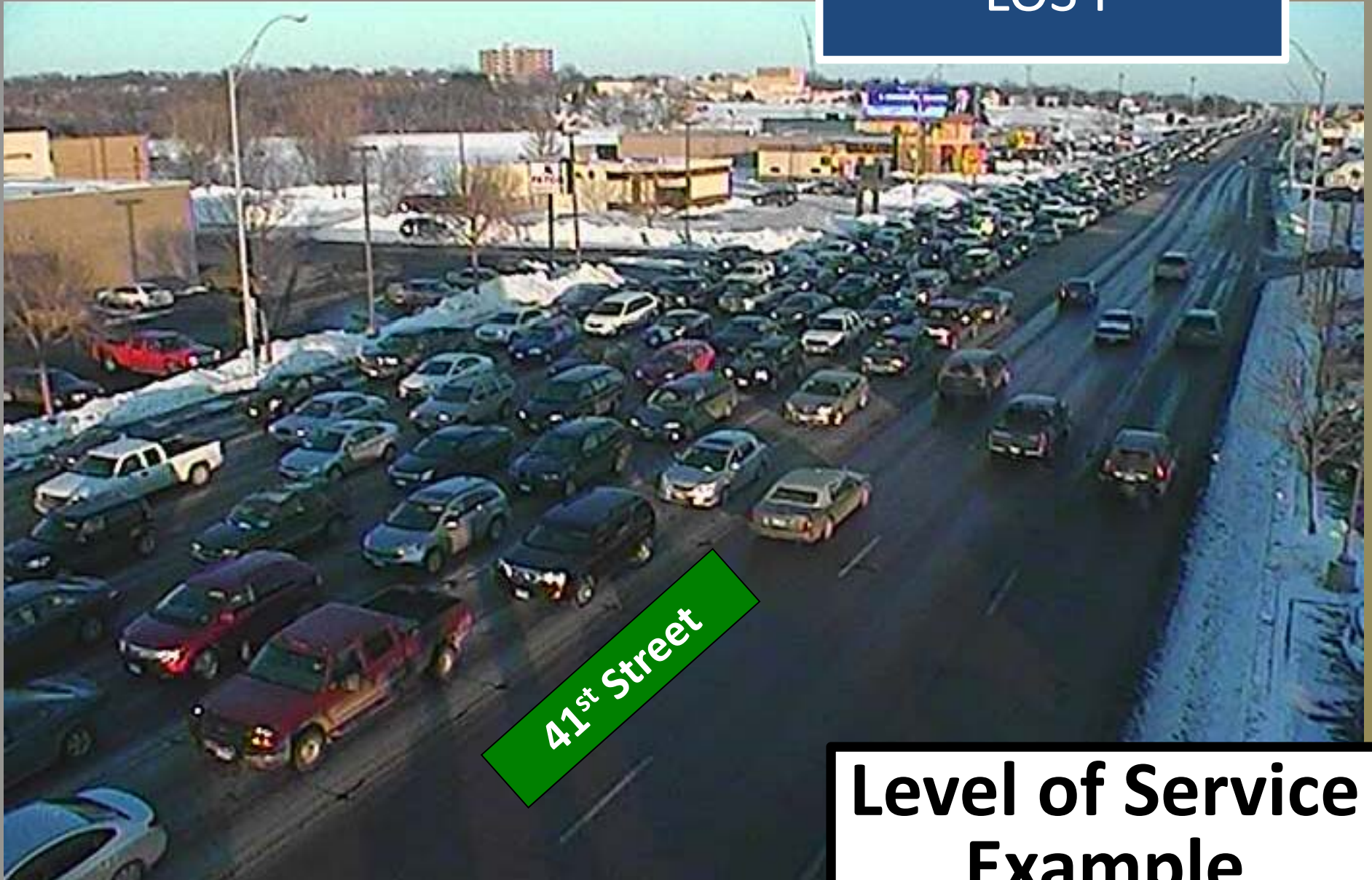
LOS F

An aerial photograph of a multi-lane highway. The road is filled with cars, with several lanes showing significant congestion. A green label 'Louise Ave' is placed diagonally across the middle of the road. In the bottom right corner, a white box with a black border contains the text 'Level of Service Example'. In the top right corner, a blue box with a white border contains the text 'LOS F'. The overall scene depicts a high level of traffic density, characteristic of Level of Service F.

*Louise Ave*

**Level of Service  
Example**

LOS F

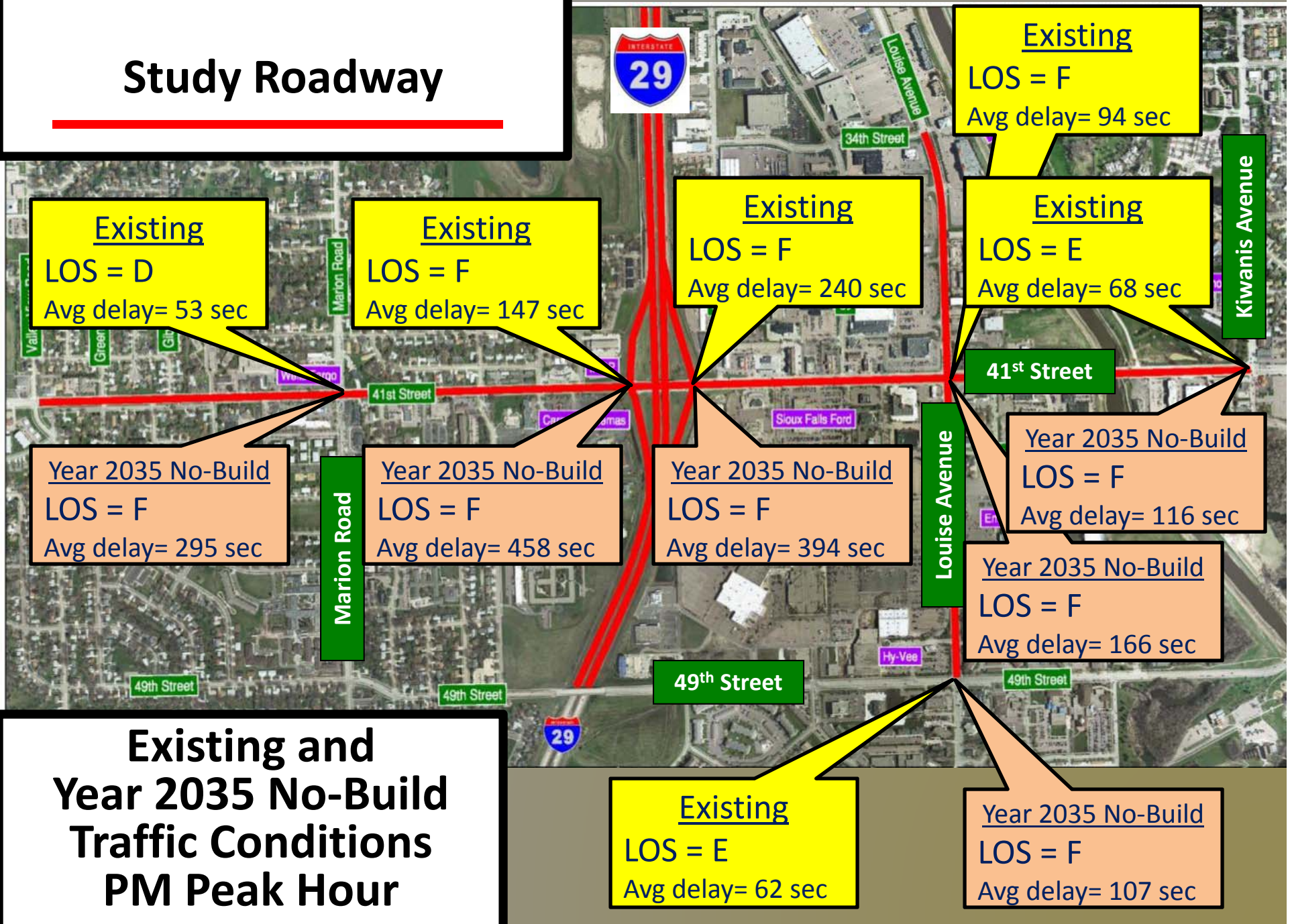


41<sup>st</sup> Street

**Level of Service  
Example**



# Study Roadway



### Criteria:

- Provide LOS D or better for year 2035 traffic.
- Minimal or no property impacts

### Timeframe:

- Unknown
- Existing bridge has many years of service life.

**Interchange  
Options**



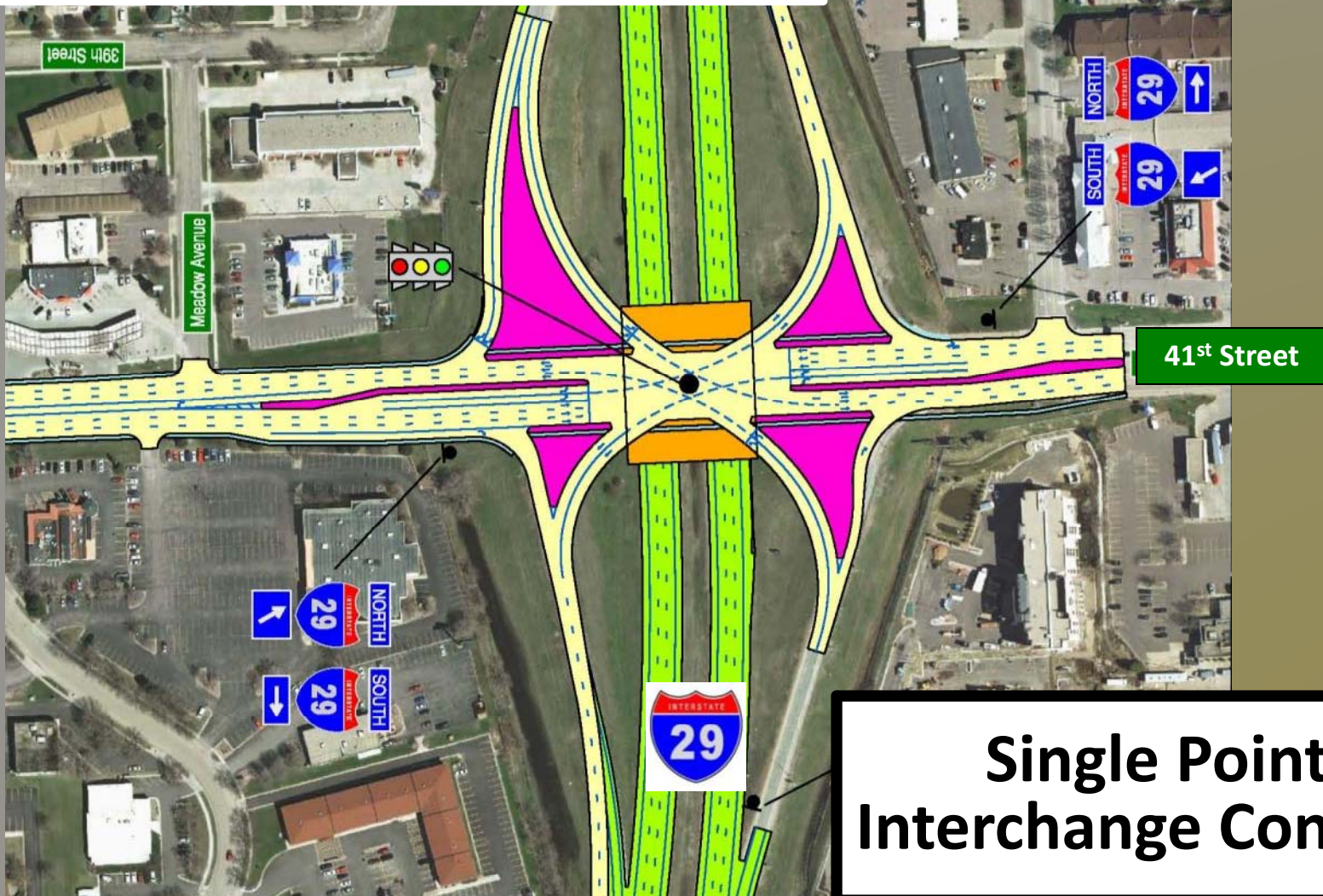
# Example of single point interchange



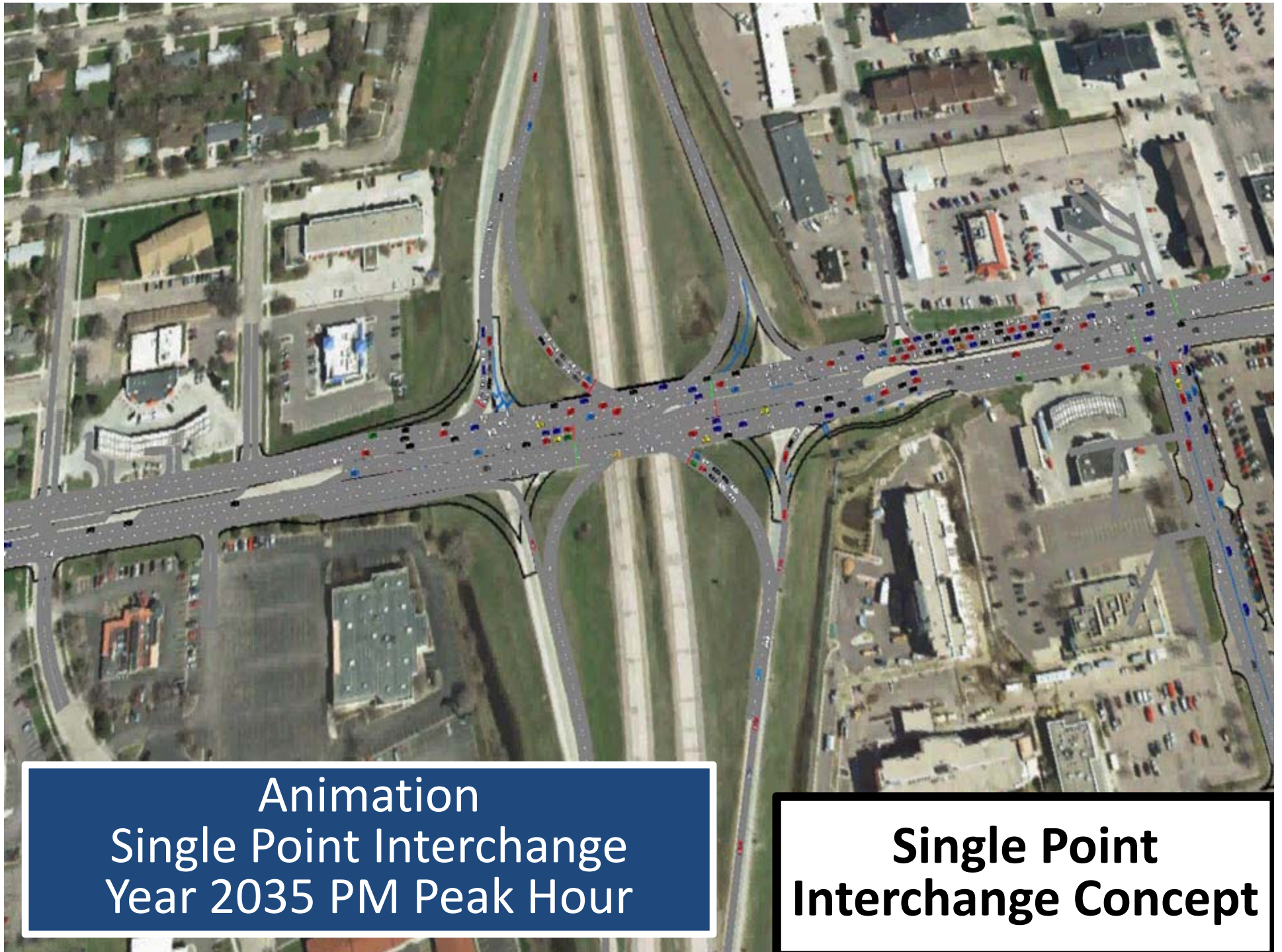
**Single Point  
Interchange Concept**



- 41<sup>st</sup> Street above I-29
- Fits in available area
- Operates at LOS C (AM) or D (PM)
- Expensive bridge structure and roadway (\$11 million +/-)







Animation  
Single Point Interchange  
Year 2035 PM Peak Hour

**Single Point  
Interchange Concept**



Example of diverging diamond interchange

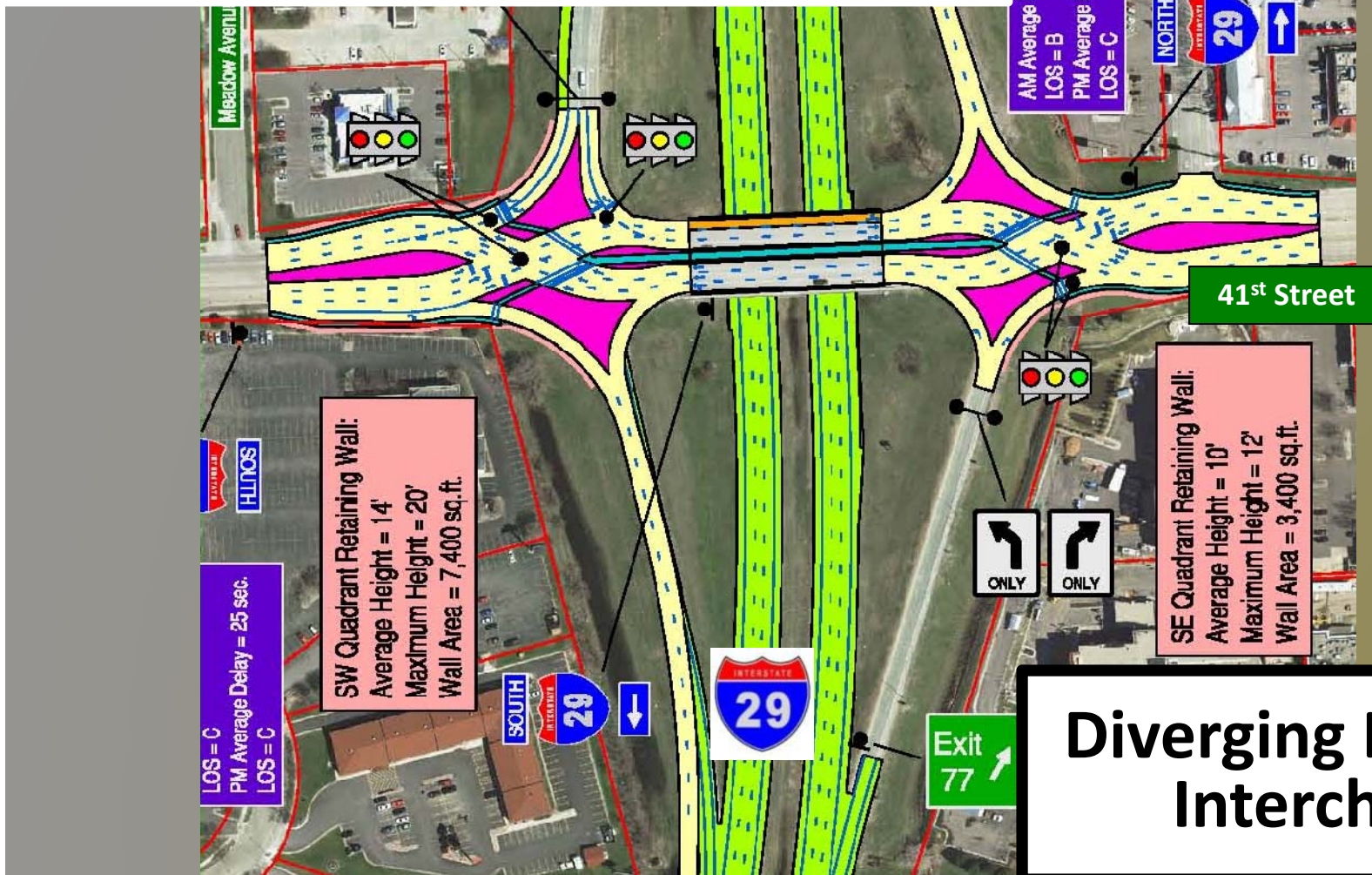
4 have been built in US  
20+ are planned



**Diverging Diamond  
Interchange**

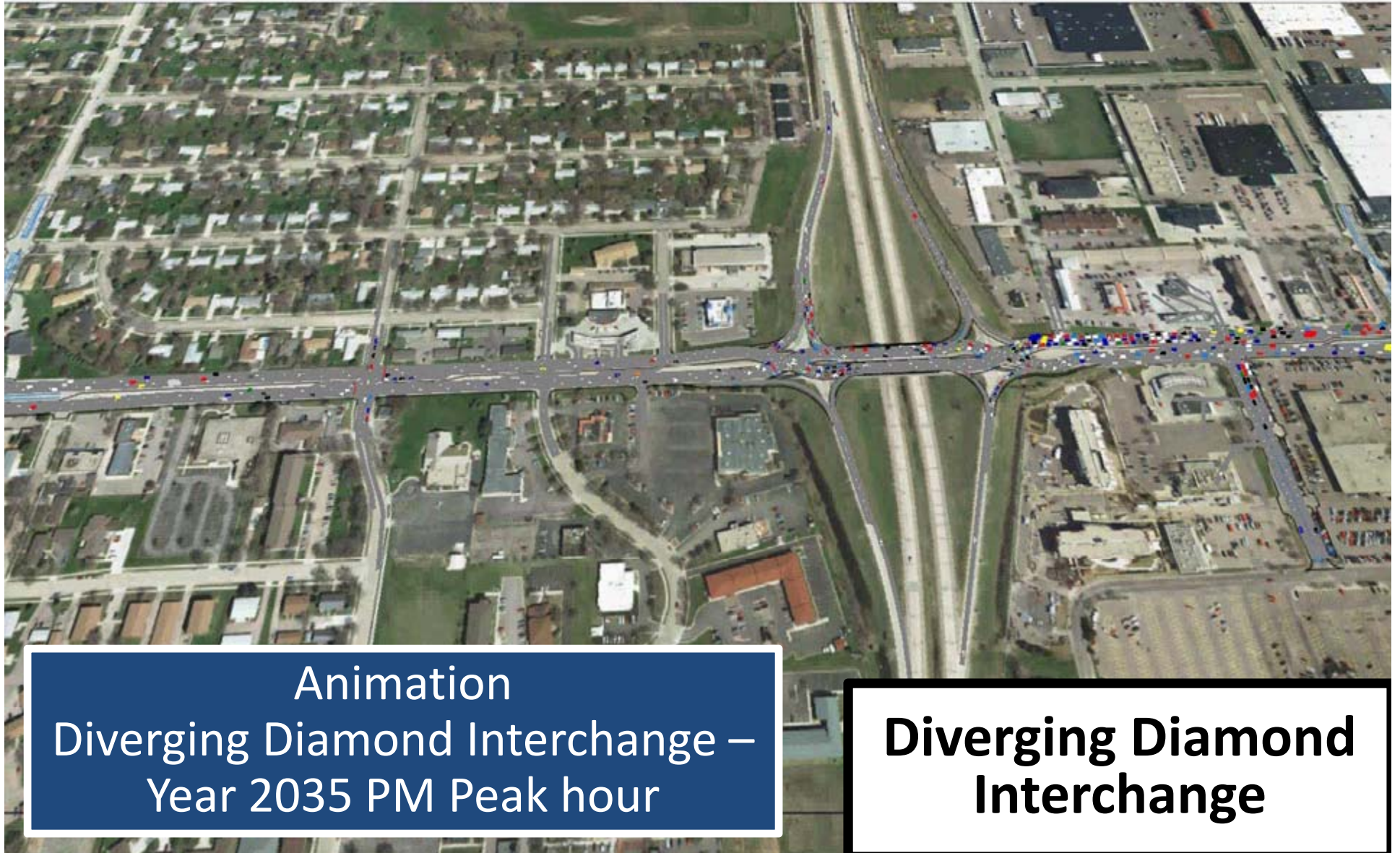


- Fits in available area (with retaining walls)
- Operates at LOS B or C
- Reasonable cost (\$5 million+/-)
- Opportunities for landscaping



## Diverging Diamond Interchange



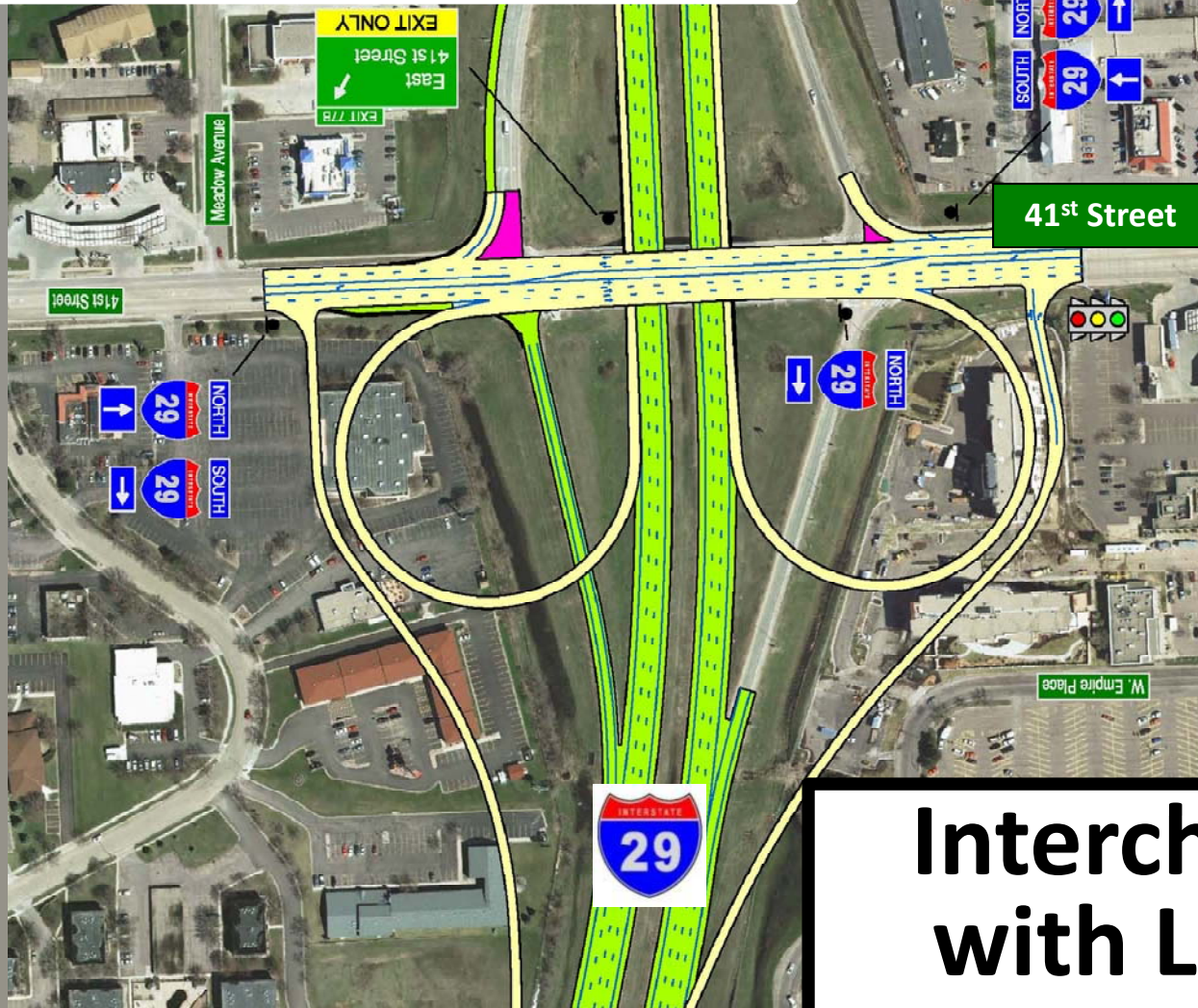


Animation  
Diverging Diamond Interchange –  
Year 2035 PM Peak hour

**Diverging Diamond  
Interchange**



- Option developed to address comments
- Not feasible due to significant property impacts



**Interchange  
with Loops**



## Study Roadway

Segment 6

Segment 1

Segment 2

Segment 3

Segment 4

Segment 5

- Traffic at I-29 interchange affects traffic throughout the study corridor roadways.

**41<sup>st</sup> Street/Louise Avenue  
Concept Options**



# Primary Considerations

Capacity goal:  
Level of Service D  
or better for year  
2035 traffic

Safety

Access

Timeframe: 5 to 20 years

**41<sup>st</sup> Street/Louise Avenue  
Concept Improvements**

[Corridor Improvement Options for presentation 09 13 11.pdf](#)

**41<sup>st</sup> Street/Louise Avenue  
Concept Options**





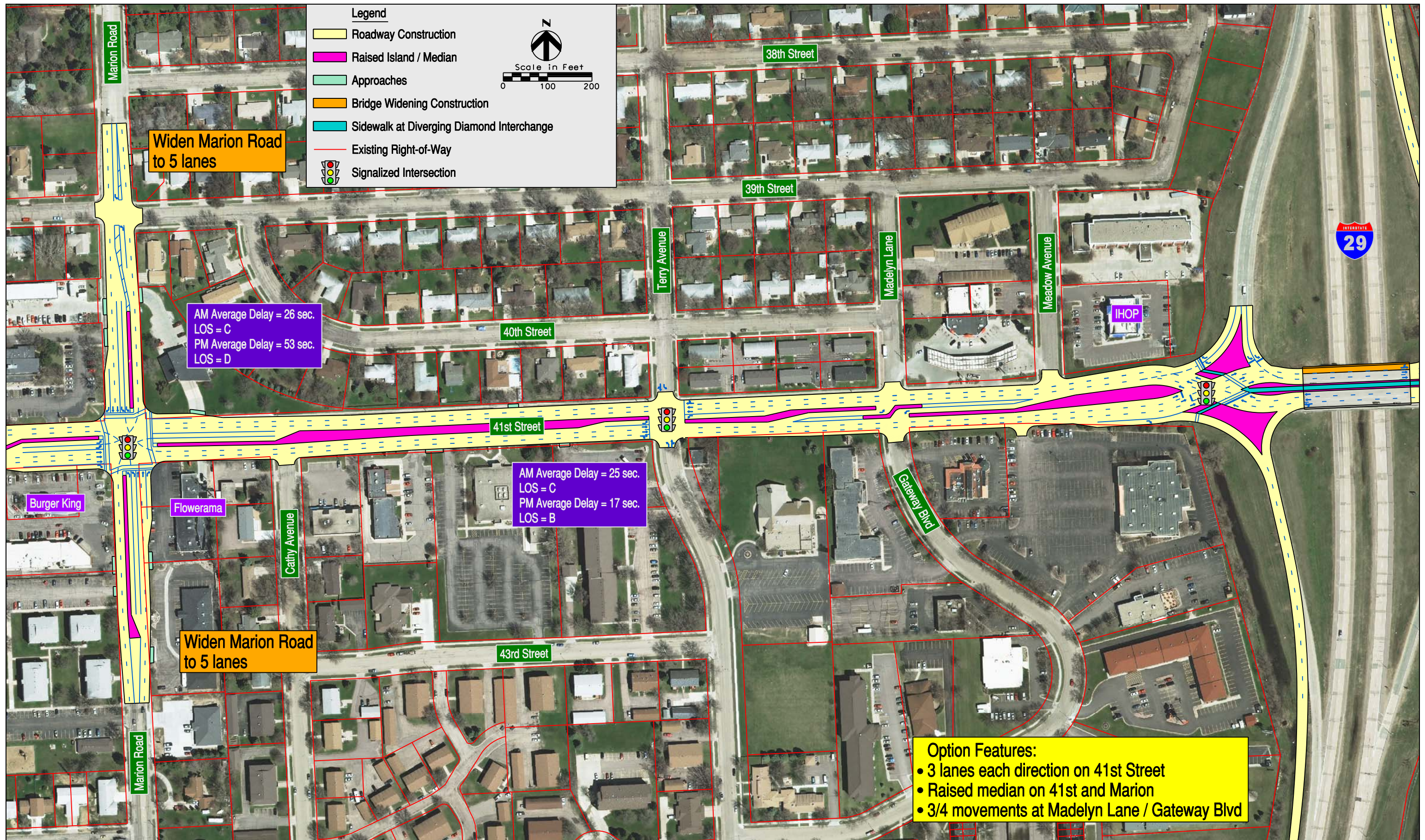
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Checked By: J. Unruh  
Date: 9-1-2011  
Revisions:



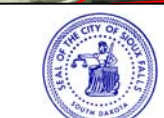
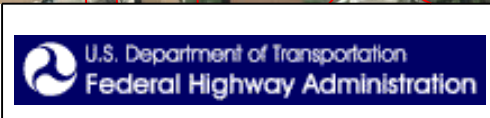
41st Street from Valley View Road to Marion Road  
Improvement Option B  
I-29 Exit 77 (41st Street) Crossroad Corridor Study  
Sioux Falls, SD

Figure  
1B





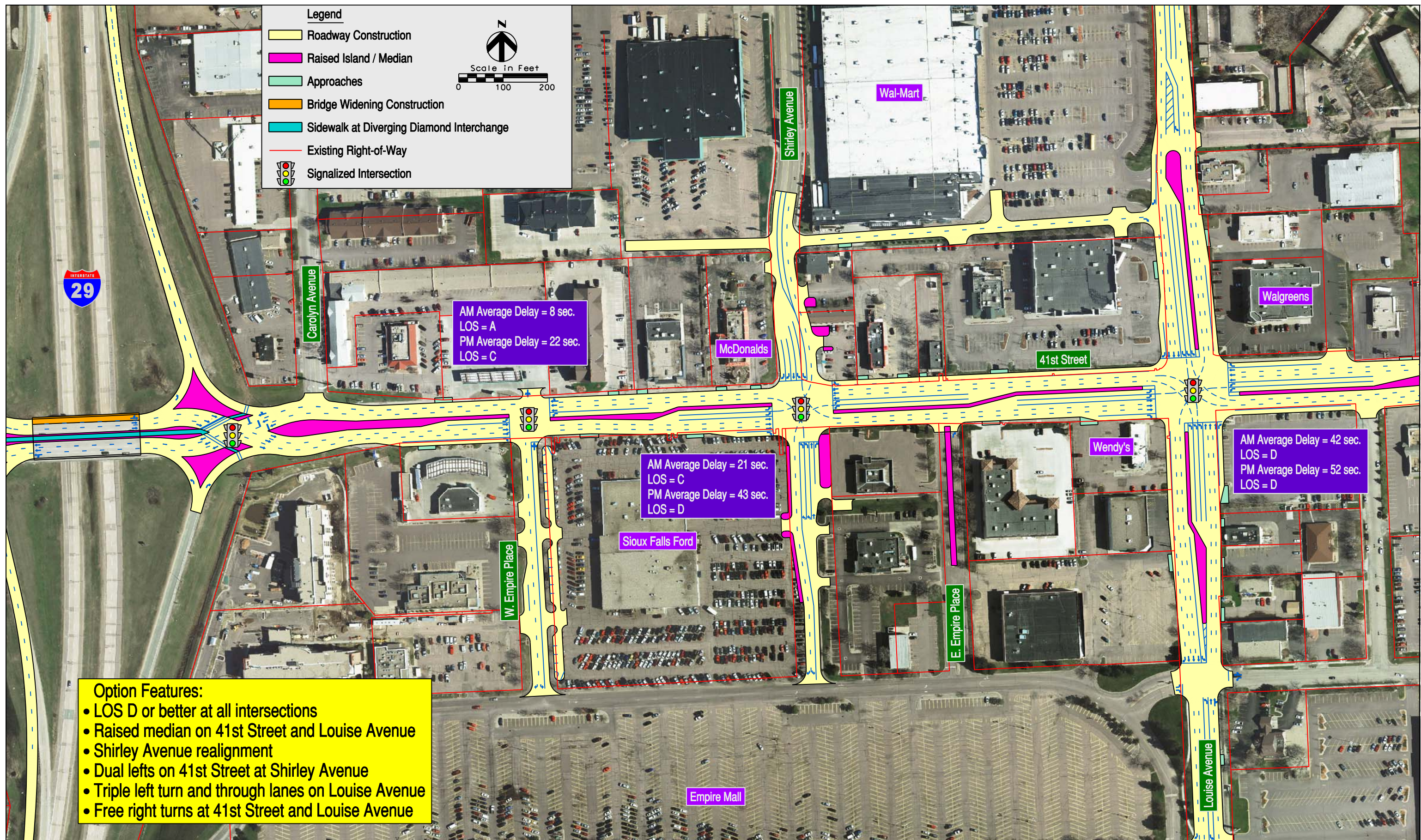
Drawn By: B. Miller  
Date: 9-1-2011  
Checked By: J. Unruh  
Date: 9-1-2011  
Revisions:



**41st Street from Marion Road to Interstate 29  
Improvement Option B**

I-29 Exit 77 (41st Street) Crossroad Corridor Study      Sioux Falls, SD





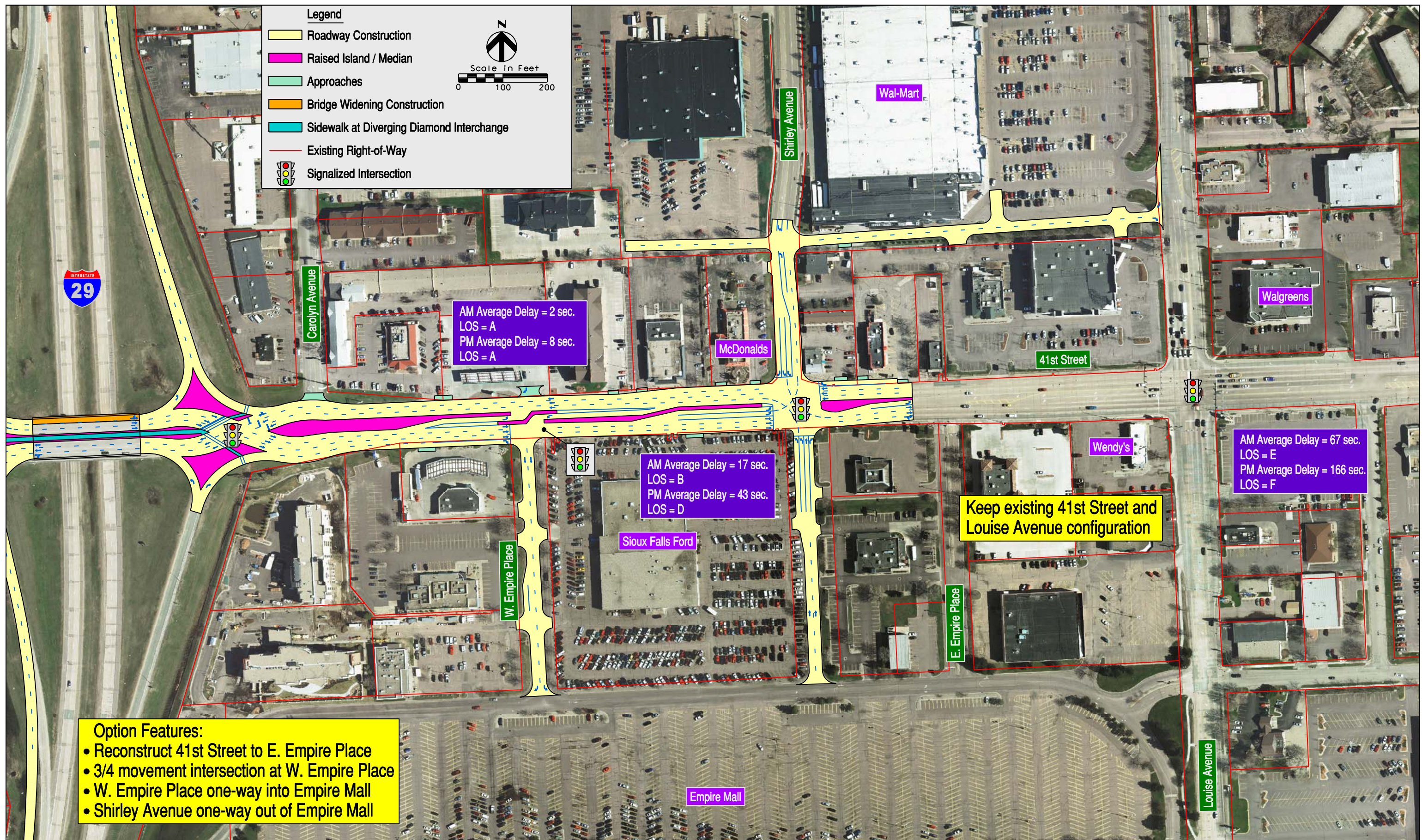
Drawn By: B. Miller  
Date: 9-1-2011  
Checked By: J. Unruh  
Date: 9-1-2011  
Revisions:



41st Street from Interstate 29 to Louise Avenue  
Improvement Option A  
I-29 Exit 77 (41st Street) Crossroad Corridor Study  
Sioux Falls, SD

Figure  
3A





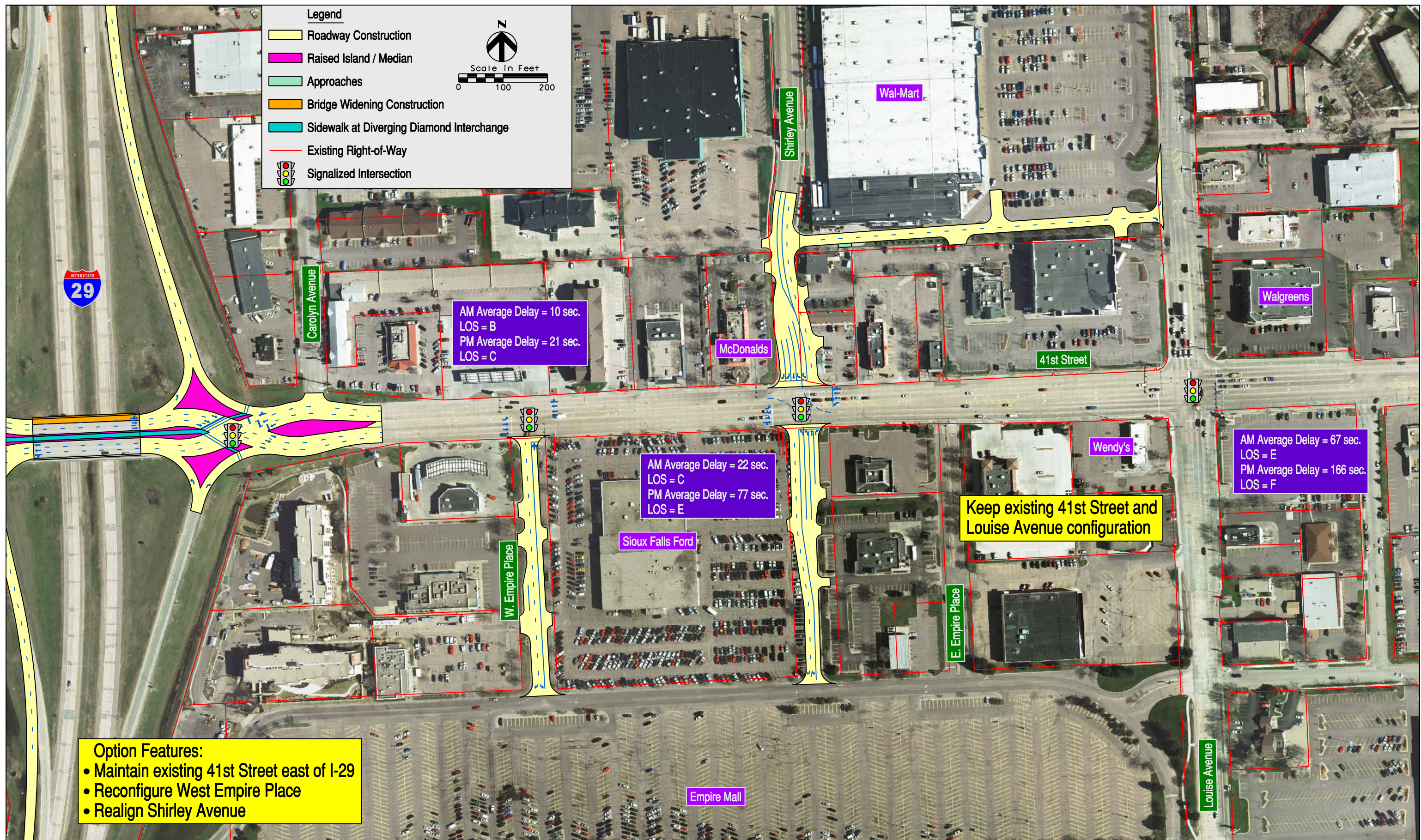
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Date: 9-1-2011  
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41st Street from Interstate 29 to Louise Avenue  
Improvement Option C  
I-29 Exit 77 (41st Street) Crossroad Corridor Study  
Sioux Falls, SD

Figure  
3C





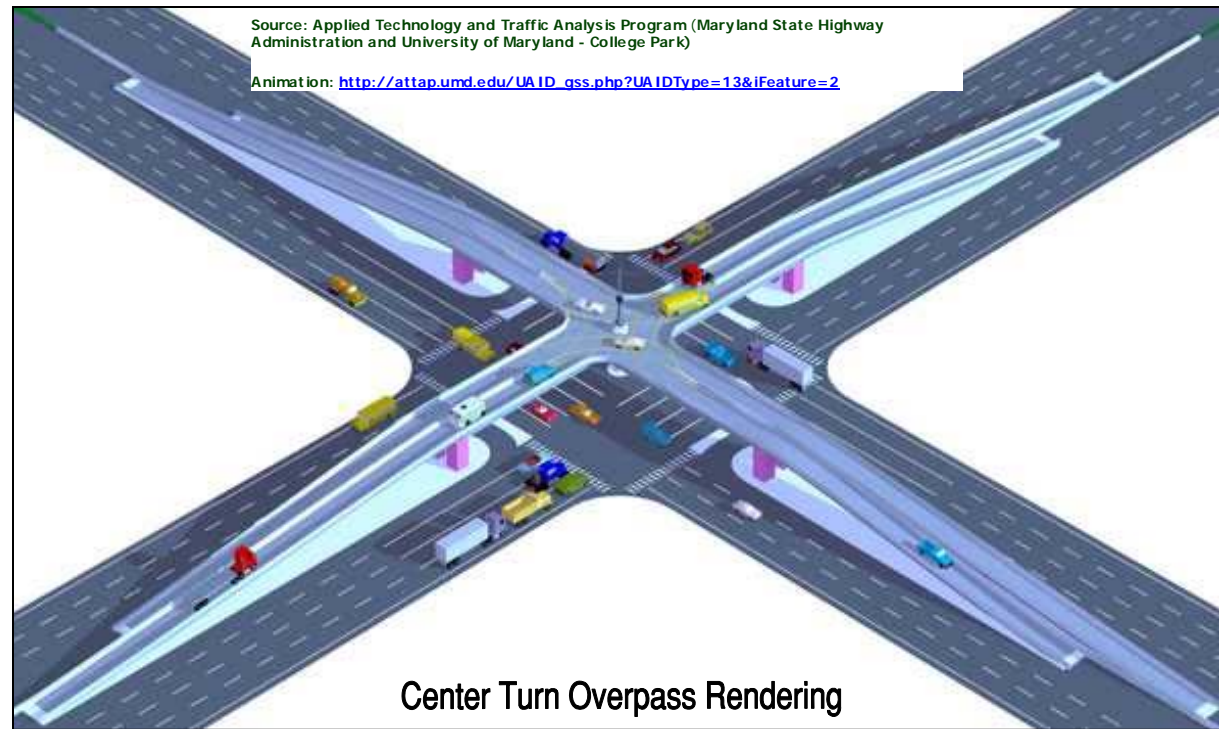
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Revisions:



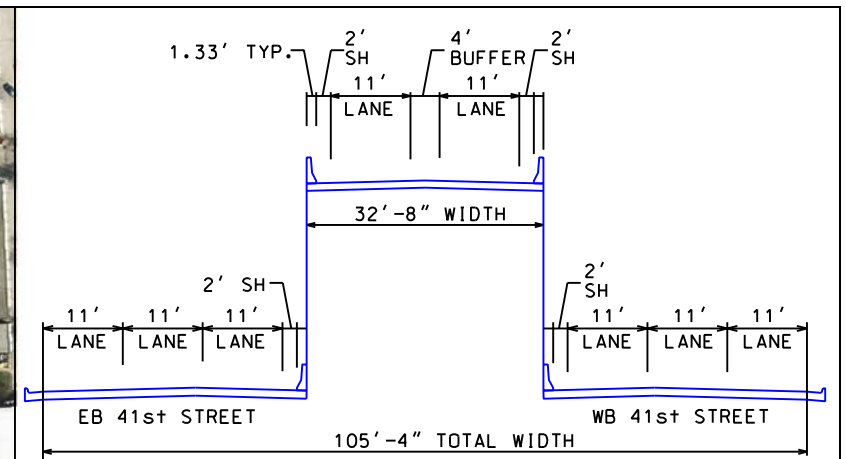
**41st Street from Interstate 29 to Louise Avenue  
Improvement Option D**  
I-29 Exit 77 (41st Street) Crossroad Corridor Study  
Sioux Falls, SD

Figure  
**3D**





Center Turn Overpass Rendering



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Date: 9-1-2011

Revisions:





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Date: 9-1-2011  
Checked By: J. Unruh  
Date: 9-1-2011  
Revisions:



41st Street from Louise Avenue to Kiwanis Avenue  
Improvement Option A  
I-29 Exit 77 (41st Street) Crossroad Corridor Study  
Sioux Falls, SD





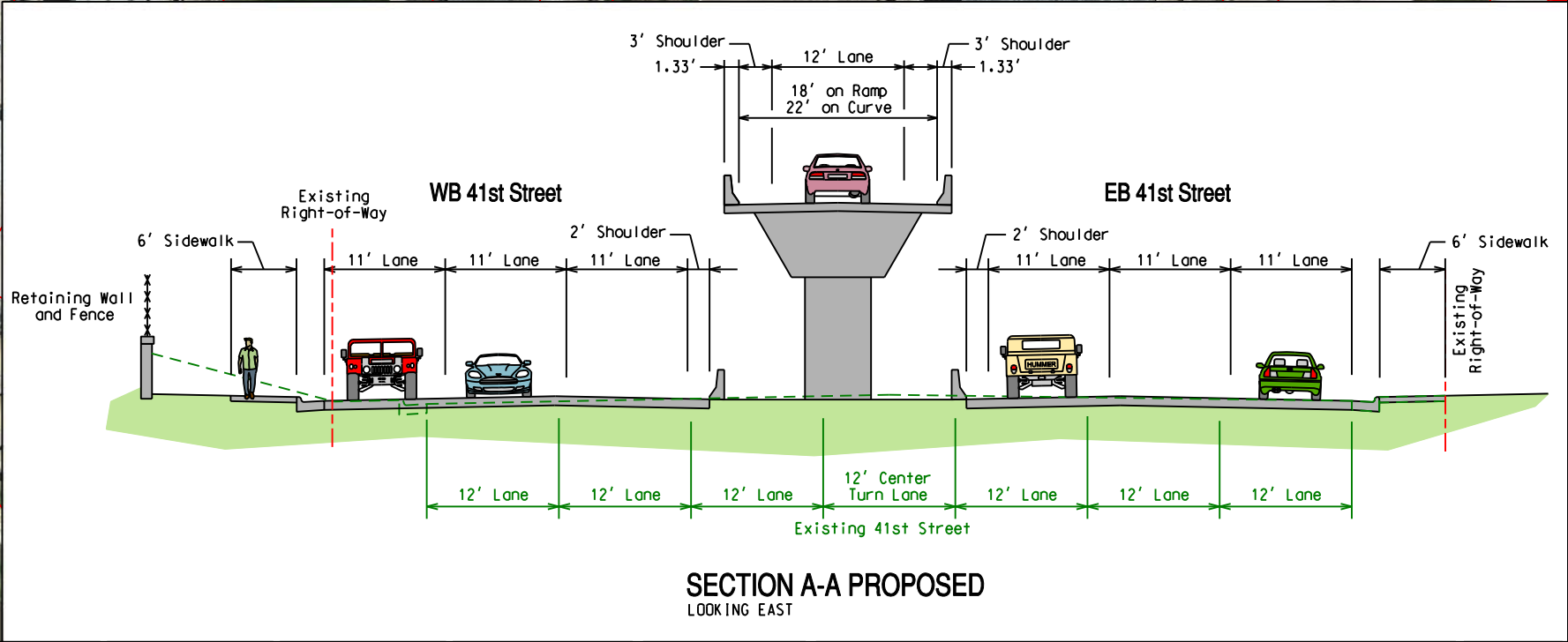
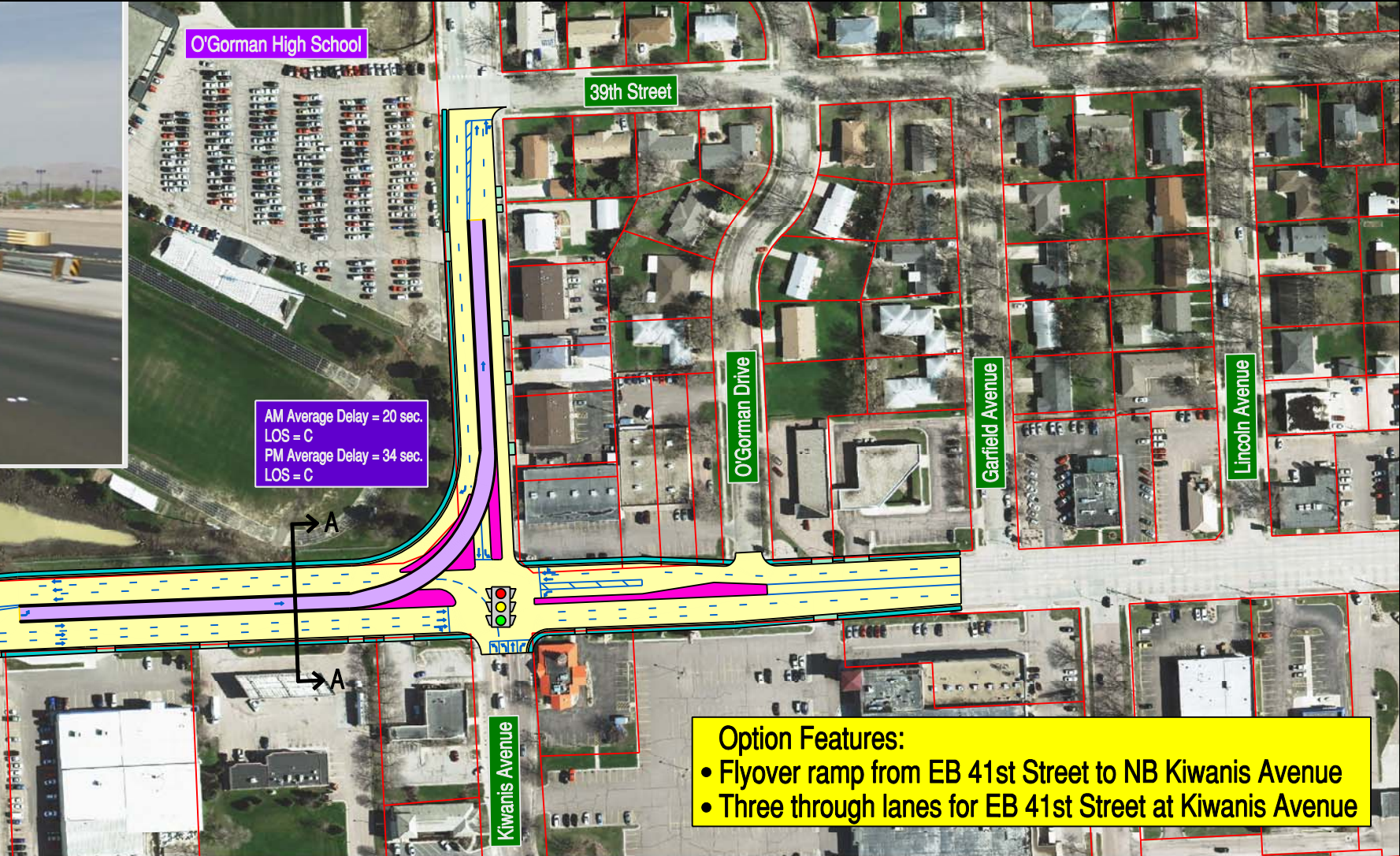
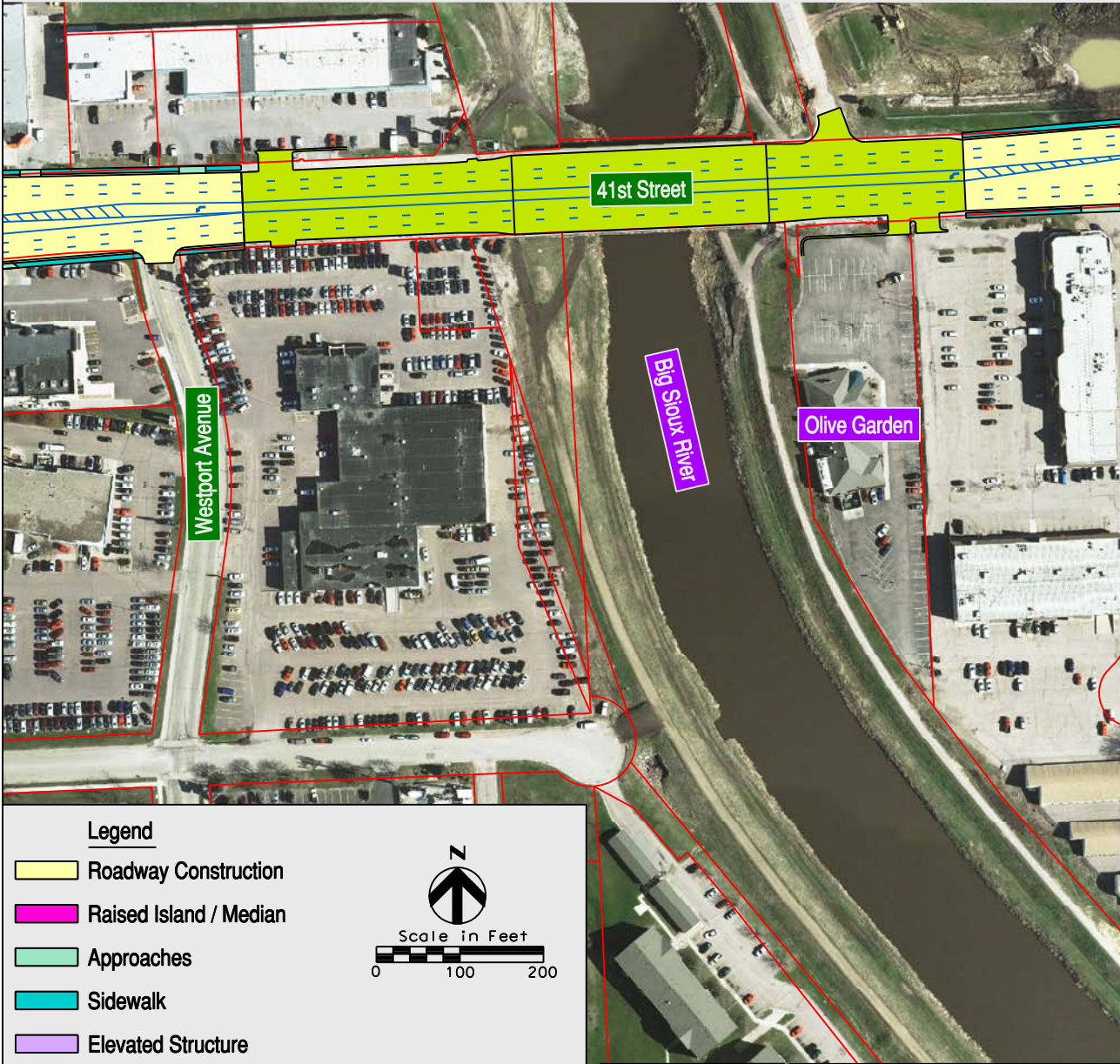
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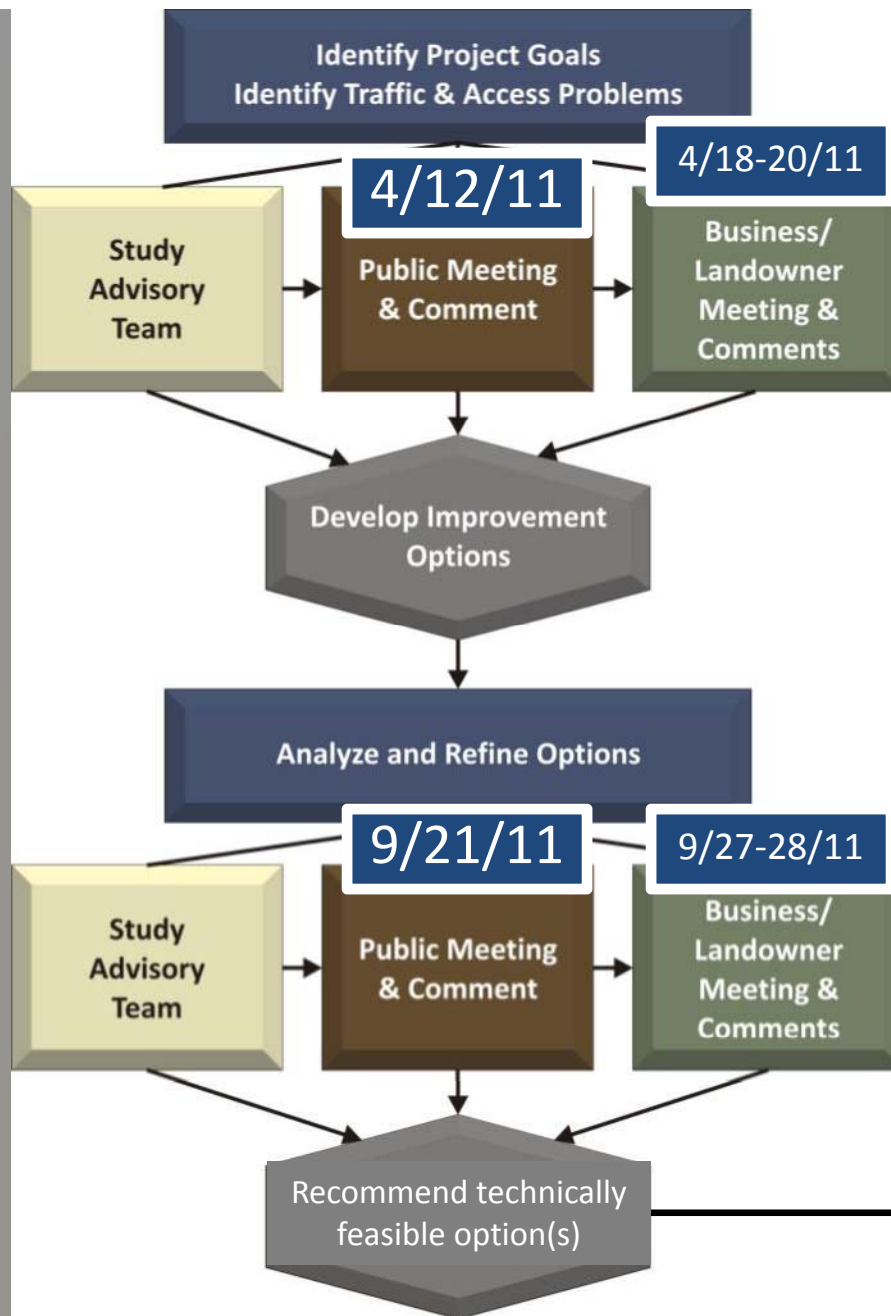
41st Street from Louise Avenue to Kiwanis Avenue  
Improvement Option D  
I-29 Exit 77 (41st Street) Crossroad Corridor Study  
Sioux Falls, SD

Figure  
4D









# Next Steps



# Information Sheet

# Handout



## Information Sheet for Public Information Open House I-29 Exit 77 (41<sup>st</sup> Street) Crossroad Corridor Study April 12, 2011; revised September 21, 2011



### Questions and Answers

**Question:** *What is the purpose of the study?*

**Answer:** The I-29 Exit 77 (41<sup>st</sup> Street) Crossroad Corridor Study will be a guidebook for roadway and access improvements over the next 5 to 20 years for 41<sup>st</sup> Street, Louise Avenue, and the I-29/41<sup>st</sup> Street interchange.

**Question:** *Why change the existing I-29 interchange at 41<sup>st</sup> Street?*

**Answer:** In the morning rush hour, eastbound 41<sup>st</sup> Street traffic often backs up to Marion Road. In the evening rush hour, the I-29 southbound off-ramp traffic often backs up onto I-29. These conditions lead to unacceptable delays and safety concerns for drivers. As traffic levels continue to increase, the traffic concerns at the 41<sup>st</sup> Street/I-29 ramp intersections will continue to worsen.

**Question:** *How can you improve the I-29/41<sup>st</sup> Street interchange?*

**Answer:** Different types of interchanges will be evaluated. The interchange types that efficiently handle large volumes of left-turning traffic. The single point interchange (e.g. I-29/12<sup>th</sup> Street) and the diverging diamond interchange are expected to fit within the existing roadway right-of-way and would efficiently handle the traffic at the I-29/41<sup>st</sup> Street interchange.

**Question:** *Why study the I-29 interchange and 41<sup>st</sup> Street and Louise Avenue?*

**Answer:** Page 2 of this Information Sheet shows the limits of the corridor study roadways. From a traffic perspective, all of these roadways tend to operate together as a system. Problems in one area generally affect the rest of the study area roadways. Likewise, improvements in one area would generally affect the rest of the study area roadways. So it makes sense for the study to include 41<sup>st</sup> Street from Valley View Road to Kiwanis Avenue and Louise Avenue from 49<sup>th</sup> Street to 34<sup>th</sup> Street.

**Question:** *Will previous studies be taken into account?*

**Answer:** The 2010 South Dakota Interstate Corridor Study identified options for improving the I-29/41<sup>st</sup> Street interchange; those options will be refined and analyzed in detail in this study. The recommendations from the 2000 41<sup>st</sup> Street Corridor Analysis will also be considered in this study.

**Question:** *What types of issues will the study cover?*

**Answer:** The primary transportation related considerations will be roadway capacity, safety, and access.

Other considerations include pedestrians, transit, and aesthetics. The corridor study will identify where problems exist and options for improvements.

**Question:** *What is the timeframe for improvements?*

**Answer:** Reconstruction and expansion of I-29 from 26<sup>th</sup> Street to 57<sup>th</sup> Street began this year (2011). At this point, there is no specific timeframe for any other significant improvements of study area roadways. The corridor study will identify the potential timeline and sequence for improvement options. Maintenance work on 41<sup>st</sup> Street and Louise Avenue will continue to be done in upcoming years to keep the driving surface in good condition.

**Question:** *Will any business access changes be considered in the transportation study?*

**Answer:** With all of the commercial land use along 41<sup>st</sup> Street and Louise Avenue, providing good access to businesses is a primary consideration. A goal of the study process is to work in partnership with business/landowners to identify existing access problems and feasible solutions to these problems.

### Completed Steps and Next Steps

**April 2011**

Public and business/landowner group meetings

**May to August 2011**

Develop and analyze improvement options

**September 21, 2011**

Public meeting #2

**September 27-28, 2011**

Business/landowner group meetings

**October 5, 2011**

Public meeting comments due

**October to December 2011**

Prepare draft corridor study

**January 2012**

Public meeting #3

**March 2012**

Prepare final corridor study

### More Questions?

**Contact:**

Steve Gramm, PE SDDOT 700 E. Broadway Pierre, SD 57501 Phone: 773-6641	James Unruh, PE HDR, Inc. 6300 S Old Village Pl. Sioux Falls, SD 57108 Phone: 977-7740	Shannon Ausen, PE City of Sioux Falls PO Box 7402 Sioux Falls, SD 57117 Phone: 367-8601
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See also project web site at:

[http://www.sddot.com/pe/projdev/planning\\_ss\\_I29Exit77.asp](http://www.sddot.com/pe/projdev/planning_ss_I29Exit77.asp)







**Comment Card**

**I-29 Exit 77 (41<sup>st</sup> Street) Crossroad Corridor Study**

*Public Meeting/Open House #2*

*September 21, 2011*

Comments:

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Name: \_\_\_\_\_ Business/Property: \_\_\_\_\_

Address: \_\_\_\_\_ Phone: \_\_\_\_\_

**For your comments to be considered, please return by October 5, 2011.**

**Comments can also be e-mailed to: [james.unruh@hdrinc.com](mailto:james.unruh@hdrinc.com)**

From: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PLACE  
POSTAGE  
HERE

*HDR, Inc.  
6300 South Old Village Place, Suite 100  
Sioux Falls, SD 57108*

*ATTN: James Unruh*

**Comment  
Cards**



# Questions and Comments



Thanks for your  
attendance!!!